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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/597,449

07/26/2006

Yuichiro Shindo

OGOSH57USA

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EXAMINER

THAI, SUSAN

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

07/20/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

docketing@howsonandhowson.com

Office Action Summary	Application No. 10/597,449	Applicant(s) SHINDO ET AL.	
	Examiner SUSAN THAI	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 7-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 7-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>20100629</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Status

1. The amendment filed 06/29/2010 cancelling claims 3-6 and adding claims 9-10 is acknowledged. Currently claims 1, 2 and 7-10 are pending.

Claim Objections

2. The previous objection to claims 1 and 7-8 are withdrawn in view of the amendment.

Specification

3. The previous objection to the abstract is withdrawn in view of the amendment.

Claim Rejections - 35 USC § 112

4. The previous rejection of claim 1 under 35 U.S.C. 112, second paragraph, is withdrawn in view of the amendment.

Terminal Disclaimer

5. The terminal disclaimer filed on 6/29/2010 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of 11/915,628 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-2 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al. ("Ductility of Ultra High Purity Copper").

Regarding **claims 1-2 and 7-8**, Fujiwara discloses 8N ultra-high purity copper (abstract) where the elements O, C, N, H, S and P are 1ppm or less (see Table 1). In regards to the residual resistance ratio (RRR), applicant admitted that the RRR of 8N-9N copper is 40,000-100,000 (table 1). RRR is a property of purity, therefore conventional 8N copper would have the claimed RRR.

Although Fujiwara does not explicitly disclose that the content of impurities excluding the gas components totals no more than 0.01ppm, it is well known in the art that high purification of target materials are in demand as evidenced by the instant specification (see background art, para 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time to reduce the amount of impurities present in the target sample because it provides a higher purified target material. It is well settled that the difference in degree of purity itself does not predicate invention. In re Merz, 38 USPQ 143 and In re King et al, 43 USPQ 400.

The Supreme Court decided that a claim can be proved obvious merely by showing that the combination of known elements was obvious to try. In this regard, the Supreme Court explained that, “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has a good reason to pursue the known options within his or her technical grasp.” An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not. Therefore, choosing from a finite number of identified, predictable solutions, with a reasonable expectation for success, is likely to be obvious to a person of ordinary skill in the art. See *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1395 – 97 (2007) (see MPEP § 2143, E.).

Claim 7 is considered a product-by-process claim. The cited prior art teaches all of the positively recited structure of the claimed apparatus or product. The determination

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of patentability is based upon the product itself. The patentability of a product or apparatus does not depend on its method of production or formation. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (see MPEP § 2113).

Regarding **claims 9 and 10**, Fujiwara discloses all the limitations as set forth above.

Fujiwara, however, does not explicitly disclose that the content of Ag is less than 0.005ppm, Al is less than 0.001ppm and Fe is less than 0.001ppm.

It is well known in the art that high purification of target materials are in demand as evidenced by the instant specification (see background art, para 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time to reduce the amount of impurities present in the target sample because it provides a higher purified target material. It is well settled that the difference in degree of purity itself does not predicate invention. *In re Merz*, 38 USPQ 143 and *In re King et al*, 43 USPQ 400.

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formula disassociated from the consideration of the facts of the case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not. Therefore, choosing from a finite number of identified, predictable solutions, with a reasonable expectation for success, is likely to be obvious to a person of ordinary skill in the art. See *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1395 – 97 (2007) (see MPEP § 2143, E.).

10. Claims 1-2 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiwara et al. (“Ductility of Ultra High Purity Copper”) in view of Itoh et al. (US5206430).

Regarding **claims 1-2 and 7-10**, Fujiwara discloses 8N ultra-high purity copper (abstract) where the elements O, C, N, H, S and P are 1ppm or less (see Table 1). In regards to the residual resistance ratio (RRR), applicant admitted that the RRR of 8N-9N copper is 40,000-100,000 (table 1). RRR is a property of purity, therefore conventional 8N copper would have the claimed RRR.

Fujiwara does not explicitly disclose that the content of impurities excluding the gas components totals no more than 0.01ppm or where the content of Ag is less than 0.005ppm, Al is less than 0.001ppm and Fe is less than 0.001ppm.

Itoh discloses a method for obtaining high purity products (abstract) where active carbon is used as a purifying means (abstract).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the method of purification of Fujiwara by including the active

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carbon purifying means of Itoh because the added active carbon adsorbs and removes dissolved metal catalysts (C3/L54-65).

Itoh further teaches that the amount of active carbon used depends on the amount of catalytic component in the crude mixture (C3/L54-65) thus affecting the amount of catalyst metal remaining after purification. Therefore, the amount of catalyst metals remaining is a variable with respect to the amount of active carbon used and purity of the desired product.

“[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.” See *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). The discovery of an optimum value of a known result effective variable, without producing any new or unexpected results, is within the ambit of a person of ordinary skill in the art. See *In re Boesch*, 205 USPQ 215 (CCPA 1980) (see MPEP § 2144.05, II.).

Furthermore, it is well known in the art that high purification of target materials are in demand as evidenced by the instant specification (see background art, para 2). Therefore, it would have been obvious to one of ordinary skill in the art at the time to reduce the amount of impurities present in the target sample because it provides a higher purified target material. It is well settled that the difference in degree of purity itself does not predicate invention. *In re Merz*, 38 USPQ 143 and *In re King et al*, 43 USPQ 400.

The Supreme Court decided that a claim can be proved obvious merely by showing that the combination of known elements was obvious to try. In this regard, the

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Supreme Court explained that, “[w]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has a good reason to pursue the known options within his or her technical grasp.” An obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of the case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not. Therefore, choosing from a finite number of identified, predictable solutions, with a reasonable expectation for success, is likely to be obvious to a person of ordinary skill in the art. See *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1395 – 97 (2007) (see MPEP § 2143, E.).

Claim 7 is considered a product-by-process claim. The cited prior art teaches all of the positively recited structure of the claimed apparatus or product. The determination of patentability is based upon the product itself. The patentability of a product or apparatus does not depend on its method of production or formation. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985) (see MPEP § 2113).

Response to Arguments

11. Applicant's arguments with respect to claims 1-2 and 7-10 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that Fujiwara does not disclose the specific purities as claimed in the newly amended claims. As applicant admitted in the background art section of the instant specification "...high purification of target materials is strongly demanded..." see paragraph 2 of that section. Therefore, it would have been obvious to one of ordinary skill in the art at the time to reduce the amount of impurities present in the target sample because it provides a higher purified target material. Furthermore, it is well settled that the difference in degree of purity itself does not predicate invention. In re Merz, 38 USPQ 143 and In re King et al, 43 USPQ 400.

Applicants have not substantiated their position/critically by factual evidence with a 132 declaration. The examiner invites the applicant to provide the 132 declaration for further review and consideration.

Conclusion

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUSAN THAI whose telephone number is (571)270-1487. The examiner can normally be reached on Monday-Thursday, 6:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nam X Nguyen/
Supervisory Patent Examiner, Art Unit 1753

/SUSAN THAI/
Examiner, Art Unit 1795